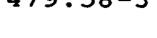
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WE CLAIM:

- Folliculo stellate-derived 1. growth factor in isolated form.
- 2. Folliculo stellate-derived growth factor of Claim 1 which is a dimeric protein having a molecular weight of approximately 43 kd, as determined by SS polyacrylamide electrophoresis under non-reducing conditions, and which comprises at its N-terminus the amino acid sequence Ala-Pro-Met-Ala-Glu-Gly-Gly-Gln-Lys-Pro-His-Glu.
- Folliculo stellate-derived growth factor of Claim 3. 2 which further comprises an internal amino acid sequence, obtainable upon tryptic digestion, selected from the group consisting of:

Ser-Phe-Cys-Arg-Pro-Ile-Glu-Thr-Leu-Val-Ssp-Ile-Phe-Glu-Tyr-Pro-Asp-Glu-Ile; and

Ser-Phe-Cys-Arg-Pro-Ile-Glu-Thr-Leu-Val-Ssp-Ile-Phe-Glu-Tyr-Pro-Asp/Ile Glu.

- 4. A method of promoting the proliferation of endothelial cells which comprises applying to such cells a mitogenic amount of folliculo stellate-derived growth factor of Claim 1.
- The method of Claim 4, wherein the endothelial 5. cells are grown in cell culture.
- A method of promoting vascular endothelialization 6. which comprises applying to vascular surfaces of a host in need of such treatment an amount of folliculor stellatederived growth factor of Claim 1 sufficient to promote endothelialization.

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- 7. The method of Claim 6, wherein the folliculo stellate-derived growth factor is applied post-operatively to vascular surfaces following balloon angioplasty.
- 8. The method of Claim 6, wherein the folliculo stellate-derived growth factor is applied to the surfaces of vasculature and/or the surfaces of vascular grafts during or prior to vascular graft surgery.
- 9. The method of Claim 6, wherein the folliculo stellate-derived growth factor is administered to a host following myocardial infarction.
- 10. A method of promoting wound healing which comprises administering to a wound an amount of the folliculo stellate-derived growth factor of Claim 1 sufficient to promote angiogenesis at the wound site.
- 11. A pharmaceutical composition comprising the folliculo stellate-derived growth factor of Claim 1 and pharmaceutically acceptable carrier vehicle.
- 12. A method for producing a substantially pure folliculo stellate-derived growth factor (FSdGF) in isolated form, which method comprises:
- (a) providing a biological sample containinglevels of FSdGF;
 - (b) extracting the solubilized portion of the sample;
 - (c) partially purifying the FSdGF from the extract using an aqueous salt-precipitation step;
- (d) fractionating the purified extract using affinity chromatography employing heparin moieties linked

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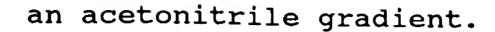
to an insoluble support as the stationary phase and employing a salt gradient mobile phase of increasing salt concentration;

- (e) fractionating the extract using gel exclusion chromatography;
 - (f) fractionating the sample using liquid chromatography; and optionally
- (g) purifying the extract using reverse-phase high performance liquid chromatography.
 - 13. The method of Claim 12 wherein in step (c) the aqueous salt precipitation uses ammonium sulphate.
 - 14. The purified folliculo stellate-derived growth factor obtained by the method of Claim 12.
 - 15. The folliculo stellate-derived growth factor in purified form which is a glycoprotein consisting essentially of two substantially homologous subunits each having a molecular weight of about 23,000 daltons.
 - 16. The folliculo stellate-derived growth factor of Claim 1 which is effective in wound healing in a human being at a concentration of between about 10 picogram/milliliter and about 500 picogram/milliliter.
 - 17. The method of Claim 12 wherein:

in the partially purifing step the FSdGF is contacted with aqueous ammonium sulfate solution;

in fractionating step (d) the heparin is attached to sepharose; and

in the purifying step (g) the reverse phase high performance liquid chromatography is conducted using



- 18. The purified growth factor produced by the method of Claim 17.
- 19. A folliculo stellate-derived growth factor in isolated form produced by a recombinant deoxyribonucleic acid (DNA) methods.
- 20. The folliculo stellate-derived growth factor of Claim 19 having a molecular weight of about 43,000 da.
- 21. Folliculo stellate-derived growth factor in isolated form.
- 22. The folliculo stellate-derived growth factor of Claim 21 having a molecular weight of about 43 kDa.
- 23. Folliculo stellate-derived growth factor of Claim 21 which is a protein having a molecular weight of approximately 43 to 45 kDa as determined by SS polyacrylamide electrophoresis under non-reducing conditions.
- 24. Folliculo stellate derived growth factor of Claim

 23 which comprises at its N-terminus the amino acid

 25 sequence Ala-Pro-Met-Ala-Glu-Gly-Gly-Gln-Lys-Pro-His-Glu-Val-Val-Lys-Phe-Met-Asp-Val-Tyr-Gln...
- 25. The folliculo stellate-derived growth factor of Claim 21 which under reducing conditions produces a substantially homologous dimer each unit having a molecular weight of about 23,000 daltons.
- 26. A method of obtaining a concentrated folliculo stellate-derived growth factor in isolated form, which method comprises:

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- (a) obtaining a biological liquid supernatant sample containing levels of FSdGF using the conditioning medium of a culture;
 - (b) fractionating the sample of step (a) using heparin moities linked to an insoluble support as the stationary phase and using a salt gradient mobile phase of increasing salt concentration; and
 - (c) purifying the bioactive fraction of step (b) using gel electrophoresis.
- 27. The method of Claim 26 wherein in the fractionating step the growth factor elutes at a sodium chloride concentration of between about 0.6 and 1.0 Molar.
- 28. The method of Claim 27 wherein in the purifying step the gel is a suitable polyacrylamide.
- 29. The folliculo stellate-derived growth factor produced by the method of Claim 26 having a molecular weight of about 43,000 da.
- 30. A pharmaceutical composition comprising the folliculo stellate-derived growth factor produced by the method of Claim 26.
- 31. A pharmaceutical composition comprising the folliculo stellate-derived growth factor of Claim 21 and a pharmaceutically acceptable carrier vehicle.
- 32. The pharmaceutical composition of Claim 21 wherein the carrier vehicle is a parenteral carrier vehicle.
- 33. A method of obtaining a substantially pure folliculo stellate-derived growth factor (FSdGF) in

isolated form, which method comprises:

(a) providing a biological sample containing levels of FSdGF;

- (b) extracting the solubilized portion of the sample;
- (c) partially purifying the FSdGF from the extract using an aqueous salt-precipitation step;
- (d) fractionating the purified extract using affinity chromatography employing heparin moieties linked to an insoluble support as the stationary phase and employing a salt gradient mobile phase of increasing salt concentration;
- (e) fractionating the extract using gel exclusion chromatography; and
 - (f) purifying the extract using reverse-phase high pressure liquid chromatography.
 - 34. The purified folliculo stellate-derived growth factor obtained by the method of Claim 33.
 - 35. The purified folliculo stellate-derived growth factor of Claim 35 having a molecular weight of between about 43,000 and 45,000 da.
 - 36. A folliculo stellate-derived growth factor in purified form which is a glycoprotein consisting essentially of two substantially homologous subunits each having a molecular weight of about 23,000 daltons.
 - 37. The folliculo stellate-derived growth factor of Claim 21 which is effective in wound healing in a human being at a concentration of between about 10

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picogram/milliliter and about 500 picogram/milliliter.

- 38. The method of Claim 33 wherein in step (f) the reverse phase high pressure liquid chromatography is performed using an aqueous acetonitrile gradient.
 - 39. The method of Claim 33 which further includes:
- (g) purifying the concentrated product of step (f) using reverse phase high performance liquid chromatography with an aqueous isopropanol gradient.
- 40. The folliculo-stellate-derived growth factor of Claims 20 having an N-terminus internal amino acid sequence of: Ala-Pro-Met-Ala-Glu-Gly-Gly-Gln-Lys-Pro-His-Glu-Val-Val-Lys-Phe-Met-Asp-Val-Tyr-Gln-(Arg)-Ser-Phe-X-Arg-Pro-Ile-Glu-Thr-Leu-(Val)-X-Ile-X-(Gln)-Glu-Tyr-(Pro)- wherein the amino acids in parenthesis are certain and the -X-indicates an amino acid of unknown identity.
- 41. A process for producing human endothelial cell growth factor comprising, providing a replicable expression vector capable of expressing the DNA sequence encoding human endothelial cell growth factor in a suitable host, transforming said host to obtain a recombinant host, and maintaining said recombinant host under conditions permitting expression of said endothelial cell growth factor encoding cDNA sequence to produce endothelial cell growth factor.
 - 42. The process according to claim 41 including the further step of recovering said endothelial cell growth factor.
- 20 43. The process according to claim 42 wherein said

expression vector is a bacteriophage.

44. The process according to claim 42 wherein said expression vector is plasmid.